

Remarks/Arguments

By the present amendment, the claims have been amended for clarity to overcome an apparent misunderstanding of the Examiner as to the meaning of the term "sheet". By the president amendment, the claims have been amended to clarify that a sheet means a single layer of firm flexible foam.

Claim Rejections - 35 U.S.C. § 112

Claims at 17, 18, 20-39, 57 and 58 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to point out what is included or excluded by the claim language. The Examiner believes that these claims are omnibus type claims. This rejection is respectfully traversed.

Each of the rejected claims refers to a graph that shows the noise attenuation of various dash mats as a function of frequency. Each of the claims is definite in that each of the claims calls for an acoustical barrier that comprises a layer of light weight firm-flexible foam formed into a shape that is adapted to be mounted to a sound transmitting substrate and having acoustic properties that are at least as great as curves shown on the respective graphs. For example, claim 17 requires that the foam sheet, when mounted to a steel substrate, has sound transmission loss properties at least as great as that shown on curve 108 of the graph of Figure 15. The claim is definite in that it refers to acoustical properties that are clearly defined on the graph of Figure 15. Those firm-flexible foam sheets that have sound transmission loss properties less than that shown on curve 108 on the graph in Figure 15 are excluded from the claim. Those firm-flexible foam layers that have sound transmission loss properties equal to or greater than the properties of curve 108 of the graph in Figure 15 are included in the claim. Nothing could be clearer.

The Examiner appears to be concerned about the reference in a claim to a graph. In this connection, the Examiner's attention is directed to *Ex parte Fressola*, 27 USPQ2d 1608, (BOPAI 1993). In that decision, the Board held that an omnibus claim which simply referred to the specifications and drawings without more did not comply with 35 U.S.C. 112, but explained in the decision that:

A claim specifying " the velocity cycle shown in Figure 1" was allowed without discussion of the backfiring expression, and claims have been allowed upon limitations consisting merely in references to a table in a specification and a diagram in the drawing. [Footnotes omitted.]

Incorporation by reference to a specific figure or table of properties, as mentioned in the last paragraph above, is permitted only in exceptional circumstances where there is no practical way to define the invention in words and where it is more concise to incorporate by reference than duplicating a drawing or table into the claim. See Landis, § 51; Ex parte Squires, 133 USPQ 598 (Bd.App.1961) (discussed in Applebaum, The One Line Picture Claim, 44 J.Pat.Off.Soc'y 379 (1962)); In re Faust, 86 USPQ 114 (Comm'r Pat.1943); In re Tanczyn, 202 F.2d 785, 97 USPQ 150 (CCPA 1953) (reference to curve in claim not questioned); Ex parte Lewin, 154 USPQ 487 (Bd.App.1966); Ex parte Gring, 158 USPQ 109 (Bd.App.1967) (reference to photomicrograph). Incorporation by reference is a necessity doctrine, not for applicant's convenience.

Applicant believes that, as a matter of necessity, the subject matter of claims 17, 18, 20-39, 57 and 58 must be described with reference to the graphs because there is no other way to describe the subject matter of these claims and, other than perhaps incorporating the graphs in the claims, which would be no different to the present claims. There are no other claims in the application that describe the subject matter of these claims and Applicant knows of no other way to describe the subject matter of these claims. The Board has specifically held that reference to a graph or table is appropriate in certain circumstances. If the Examiner believes that the subject matter of these claims can be better described in words, Applicant is willing to consider the Examiner's suggestions. However, Applicant sees no practical way of describing the acoustical properties that are set forth in the graphs referred to in these claims, other than with reference to the graphs.

In view of the foregoing, it is submitted that claims 17, 18, 20-39, 57 and 58 are not indefinite under 35 U.S.C. § 112.

Claim Rejections - 35 U.S.C. § 102

Claims 1-3, 9-16, 40-42, and 48-55 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Kerman U.S. Patent No. 4,800,984. This rejection is respectfully traversed.

The Kerman '984 patent discloses a two layer acoustical barrier formed of a flexible foam layer and a rigid insulating layer which are laminated together to provide an acoustical barrier. The Kerman '984 patent represents the two layer prior art that are heavy, formed by a two-step process and are fairly expensive to manufacture. The Kerman '984 patent, contrary to the Examiner's representation, does not disclose a sheet of light weight firm-flexible foam. The layer 10 in Kerman '984 is flexible foam and it is referred to as flexible foam throughout the entire Kerman '984 specification. It is not a firm flexible foam layer as required by claim 1 of Applicants claimed invention. Further, as made clear by the amendment to claim one, the Kerman '984 patent does not disclose a layer of light weight firm flexible foam as required. The foam in Kerman '984 is said throughout the specification to be flexible, including in claim 1 "a base layer of a flexible foam". A flexible foam is not a firm flexible foam.

Claims 2, 3, and 9-16 depend from claim 1 and define over the Kerman '984 patent in the same manner as claim 1. In addition, claim 3 further defines over the Kerman '984 patent as defining the firm flexible foam layer to have a sufficient stiffness that it retains its shape during handling, shipment, and installation. Flexible foams do not retain their shape during handling, shipping, and installation but are pliable and thus bend. The Kerman '984 acoustical barrier gets its rigidity from the barrier layer 12 which is said to be rigid.

Further, with respect to claim 10, the foam is said to have a density in the range of 2-9 lbs. per cubic foot. Contrary to the Examiner's representation, the Kerman '984 reference does not disclose a foam layer 10 that has a density in the range of 2-9 lbs. per cubic foot. The Examiner's reference to specific gravity in the range of 1.3 to 2.7 in Kerman '984 refers to the elastomer insulation layer 12 and not to the foam layer 10.

Independent claim 40 defines over Kerman '984 in the step of "selecting a firm flexible foam that has both sound transmission and absorbing properties and that has structural integrity for handling, shipping, and installation." A firm flexible foam is not disclosed by Kerman and therefore Kerman '984 does not disclose the step of "selecting a firm-flexible foam," and further does not disclose the step of "designing a layer of the selected firm flexible foam in a shape that generally conforms to the cabin service of the firewall" as required by claim 40. Still further,

Kerman '984 does not disclose molding the designed firm flexible foam layer into a shape to generally conform to the cabin surface also as required by claim 40.

Claims 41 and 42 and claims 48-55 all depend either directly or indirectly from claim 40 and distinguish over Kerman '984 in the same manner as claim 40. Further, claim 48 calls for the step of designing the foam material, the thickness and the shape of the foam layers so that the molded foam layer has sufficient stiffness to retain its shape during packaging, shipment, and installation. The flexible foam layer 10 of Kerman '984 does not have these properties.

Still further, claim 50 defines the foam layer as having a density in the range of 2-9 pounds per cubic feet and, in claim 50, 3 .5 pounds per cubic feet. As indicated above, the flexible foam layer 10 in Kerman '984 does not have these densities.

In view of the foregoing cover it is clear that claims 1-3, 9 to 16, 40-42 and 48-55 are not anticipated by Kerman '984.

Claim Rejections - 35 U.S.C. § 103

Claims 4-8 and 43-47 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the Kerman '984 patent in view of the Campbell et al. U.S. Patent No. 5,886,305. This rejection is respectfully reversed.

The Campbell et al. '305 reference is cited to show an acoustical barrier having an obverse surface and a reverse side wherein a patterned recess is formed in a portion of the reverse side and wherein the patterned recesses are adapted to attenuate the transmission of sound from a sound transmitting substrate against which the reverse side of the acoustical barrier is adapted to be placed.

The Examiner has misinterpreted the Campbell patent. The Campbell '305 patent discloses a sound insulating layer with an integral rim structure wherein the acoustical barrier includes a mass layer that has integrally formed peripheral ribs projecting therefrom to the acoustical barrier and wherein area formed by the ribs is devoid of any foam. The purpose of the ribs is to rigidify the acoustical barrier at certain selected locations in the dash mat, for example,

at the dead pedal area and at the floor surface in the cabin. There are no patterned recesses in the foam layer disclosed in the Campbell et al. '305 reference.

The alleged combination of Kerman '984 and Campbell et al. '305 is traversed. There is no basis for making the alleged combination and the Examiner has given none. The Campbell et al. '305 reference relates to a dash mat, as does Kerman, but there is no suggestion of incorporating the integral rib structure in the Kerman '984 reference. Thus, the alleged combination of Kerman '984 and Campbell et al. '305 is inappropriate.

However, even if the alleged combination of Kerman '984 and Campbell '305 were to be made, however untenably, it still would not reach Applicant's claimed invention. The Campbell et al. '305 reference does not disclose a firm flexible foam layer as required by claim 1 and thus the alleged combination would not have a layer of firm flexible foam that has acoustic properties that meet both requisite sound absorption and sound transmission attenuation standards. Thus, claims 4-8, which depend from claim 1, patentably distinguish over any alleged combination of Kerman '984 in view of Campbell et al.' 305.

At best, the alleged combination of Kerman '984 and Campbell et al. '305 would place the rib structure of Campbell et al. '305 in the Kerman '984 dash mat construction. In other words, the Campbell ribs would be formed integrally with the Kerman insulating layer 12 and would not be formed in the flexible foam layer 10 of Kerman '984 and the area formed by the ribs would be void of any foam material. Thus, claims 4-8 define over the alleged combination of Kerman '984 and Campbell et al. '305 in calling for the foam layer to have patterned recesses as set forth in claims 4-8, and, in addition, to defining a firm flexible foam as set forth in claim 1. No such structure would result from the alleged combination of Kerman '984 and Campbell et al. '305

Claims 43-47 depend from claim 40 and define over the alleged combination of Kerman '984 and Campbell et al. '305 in the same manner as claim 40. The alleged combination would not have a firm flexible foam that has both sound transmission and sound absorbing properties and that has structural integrity for handling, shipping and installation and thus would not disclose the steps of selecting the firm flexible foam, designing a layer of the selected firm flexible foam and molding the designed layer as required by claim 40.

Further, claims 43-45 further define at least one selected area in a reverse side of the foam layer with patterned recesses that attenuate transmission sound through the foam layer. The alleged combination would not have patterned recesses in the foam layer. At best, the alleged combination would have patterned recesses formed by the insulating layer 12 and not by the foam layer 10 of Kerman '984. Further, it is not clear that there would be any sound attenuation by the patterned recesses of the insulation layer in the alleged combination of Kerman '984 and Campbell et al. '305.

With respect to claims 46 and 47, these claims also depend from claim 43 and define over the alleged combination of references in the same manner as claim 43.

In view of the foregoing, it is submitted that claims 4-8 and 43-47 are not unpatentable over Kerman '984 in view of Campbell et al. '305 in view of 35 U.S.C. § 103(a).

Claims 19 and 56 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kerman '984 in view of the Focht U.S. Patent No. 4,121,960. This rejection is respectfully traversed.

The Focht '960 reference discloses a perforated, embossed film-to-foam laminate in which a flexible foam is laminated with a thin film that is embossed with the flexible foam to form perforated indentations. The foam laminates are said to be used as acoustic insulators for wall panels, headliners in motor vehicles or airplane passenger compartments, wherein the film forms an abrasion resistant surface that is cleanable with liquids. The flexible open cell foam is said to have a pore size from 10-90 PPI a density of 1.5 to 6 lbs./ft.³.

The alleged combination of Kerman '984 and Focht '960 is traversed. There is no basis for making the alleged combination and the Examiner has given no explanation for the combination other than the conclusory statement that the Focht '960 laminate has superior and controllable sound absorbing characteristics, as well as frequent use in the art. That statement is not a basis for making the alleged combination of these two references. Although both of these references relate to sound insulators, they are very different in structure and purpose. The Focht '960 reference has a very thin pliable layer laminated to the flexible foam whereas the Kerman

'984 reference has a rigid insulating layer which is laminated to a flexible foam base layer. These two structures are significantly different and the alleged combination is inappropriate.

However, even if the alleged combination were to be made, however untenably, it still would not reach Applicants claimed invention. Neither Focht '960 nor Kerman '984 disclose a layer of firm flexible foam that has acoustical properties that meet both requisite sound absorption and sound transmission attenuation standards as required by claims 1 and 40, from which claims 19 and 56, respectively, depend. Therefore, the alleged combination of Focht '960 and Kerman '984 cannot meet the limitations of claims 1 and 40 from which claims 19 and 46, respectively, depend. At best, the alleged combination of the Focht '960 and Kerman '984 would have the Kerman '984 structure with the flexible foam having the characteristics of the Focht '960 reference. This alleged combination would not meet either of claims 19 or 56 because the alleged combination would not meet the limitations of claims 1 and 40. Therefore, it is submitted that claims 19 and 56 patentably define over any alleged combination of Focht '960 and Kerman '984 patents.

In view of the foregoing remarks and amendments is submitted that all of the claims in the application are in condition for allowance. Early notification of allowability is respectfully requested.

Respectfully submitted,

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